

### REMARKS

Claims 1-4, 6-8, 10-12, 14, 15 and 21-25 are pending in the present application. Claims 1-4, 6-8, 10-12, 14, 15 and 21-25 have been rejected. No claims have been allowed. Claims 7 and 14 have been canceled. Claims 1, 6, 8 and 25 have been amended. New claims 26-28 have been added.

#### **I. Summary of Telephonic Interview**

The Examiner is hereby acknowledged and thanked for the courtesy extended during the telephonic interview of May 18, 2006 between Examiner Nguyen and the undersigned attorney. The pending claims, pending Final Office Action and prior art were all discussed during this telephonic interview, with particular focus on that which is clearly taught by the primary prior art reference used, U.S. Patent Publication No. 2002/0121692 to Lee, et al. ("Lee"), as well as proposed claim amendments regarding the geometry of the claimed resilient layer at the via. Agreement was reached with respect to the prior art of record not teaching or suggesting the combination of all elements of the claims as presently amended.

#### **II. Claim Objections**

Claims 6 and 7 have been objected to as depending on canceled claim 5. Appropriate amendments have been made herein, and it is respectfully submitted that the pending objections have been obviated thereby.

#### **III. Claim Rejections under 35 U.S.C. § 102**

Claim 8 stands rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication No. 2003/0116845 to Bojkov, et al. ("Bojkov"). In addition, claims 8, 10, 12, 14, 15, and 21-25 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Publication No. 2002/0121692 to Lee, et al. ("Lee"). In particular, the Final Office Action

states, "Lee discloses an integrated circuit device, as shown in figs. 1-4, comprising . . . a resilient layer 16." Applicants again respectfully traverse these pending § 102 rejections, particularly with respect to claim 14, and submit that these rejections have been overcome in any event through the present amendments.

Although Applicants again traverse the pending rejections, and in so doing incorporate by reference all prior Remarks made regarding these rejections. Nevertheless, Applicants have amended the pending claims to further distinguish the claimed invention over the prior art of record. For example, independent claim 1 now recites, *inter alia*, a "resilient layer having a plurality of resilient layer vias formed therethrough, wherein all sidewalls of at least some of said plurality of resilient layer vias are fully tapered from the top to the bottom of said resilient layer at a substantially non-vertical angle relative to the active surface of said wafer" (emphases added). Similarly, independent claims 8 and 25 now both recite, *inter alia*, a "resilient layer having a plurality of resilient layer vias . . . [having] sidewalls that are fully tapered from top to bottom such that no portion of sidewall is substantially parallel to said primary axis" (emphasis added). Support for these amendments can be found at, for example, paragraphs [0026] and [0030]-[0032], as well as Figures 3B and 3E of the application as filed. New claims 26-28 have been added to further specify that these "fully tapered sidewalls are tapered at an angle of about 45 degrees." Support for these added claims can also be found at, for example, paragraph [0026], as well as Figures 3B and 3E. As recited in paragraph [0031] of the application as filed, "[U]se of such an alternative semiconductor die . . . having no aluminum UBM stack layer *and tapered sidewalls in its resilient layer vias* results in more reliable solder joint connections having longer lifetimes" (emphasis added).

As noted previously, Lee is the only recited prior art reference that teaches or suggests that any second layer can be disposed atop its passivation layer to completely cover the passivation layer. As also noted previously, this layer in Lee is a dielectric layer and not a resilient layer. Because no reference teaches or suggests a resilient layer disposed atop a

passivation layer such that the passivation layer is completely covered by the resilient layer, Lee does not anticipate any of the pending claims for at least this reason. Assuming, *arguendo*, that Lee might teach or suggest such a limitation, then Lee certainly does not also teach or suggest the limitations now added by Applicants with respect to a *fully tapered* sidewall of the resilient layer. Because claims 10, 12, 14, 15, and 21-24 all depend from claim 8, these claims are all patentable for at least the same reasons as for claim 8. For at least these reasons, Applicants respectfully request the withdrawal of the pending anticipation rejections, and that the pending claims be passed to issuance.

#### IV. Claim Rejections under 35 U.S.C. § 103

Claims 1-4 and 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,249,044 Kao, et al. ("Kao") in view of U.S. Patent No. 6,258,705 to Chien, et al. ("Chien"). Further, claim 7 stands rejected as being unpatentable over Kao in view of Chien, and further in view of Lee. Applicants respectfully traverse these pending § 103(a) rejections, particularly with respect to claim 7, and submit that these rejections have been overcome in any event through the amendments made herein.

Although Applicants again traverse the pending rejections, and in so doing incorporate by reference all prior Remarks made regarding these rejections, Applicants have nevertheless amended the pending claims to further distinguish the claimed invention over the prior art of record, as noted above. Again, independent claim 1 now recites, *inter alia*, a "resilient layer having a plurality of resilient layer vias formed therethrough, wherein all sidewalls of at least some of said plurality of resilient layer vias are fully tapered from the top to the bottom of said resilient layer at a substantially non-vertical angle relative to the active surface of said wafer" (emphases added). Applicants respectfully submit that the prior art of record does not teach or suggest this feature, much less the combination of all elements claimed in claim 1. Because claims 2-4 and 6 all depend from claim 1, these claims are also patentable for at least the same

reason as for claim 1. For at least these reasons, Applicants respectfully request the withdrawal of the pending obviousness rejections, and that the pending claims be passed to issuance.

### CONCLUSION

Applicants respectfully submit that all claims are in proper form and condition for patentability, and thus request a Notification of Allowance to that effect. Beyond the fee for an RCE, it is believed that no other fees are due at this time. Should appropriate consideration for the RCE fee be inadvertently omitted, or should any other fee be required for any reason related to this document, however, then the Commissioner is hereby authorized to charge said fee to Deposit Account No. 50-0388, referencing Docket No. NSC1P284. The Examiner is respectfully requested to contact the undersigned attorney at the telephone number below with any questions or concerns relating to this document or application.

Respectfully submitted,  
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